generated additional 1.5 QALYs with incremental cost-effectiveness ratio of €1,405 per QALY. Over lifetime surgery lead to savings of €5,032, additional 0.8 life years, and 4.1 QALYs. In Italy, in the base-case analysis over 10 years bariatric surgery led to incremental cost of €2,552 and generated additional 1.1 QALYs with incremental cost-effectiveness ratio of €2,314/QALY. Over lifetime, surgery led to savings of €8,874, and generated additional 0.5 years of life, and 3.2 QALYs. **CONCLUSIONS:** In a comprehensive decision analytic model, a current mix of surgical methods for bariatric surgery was cost-effective at 10 years and cost saving over the lifetime time horizon in three European countries.

PSY70

COST-EFFECTIVENESS AND COST-UTILITY ANALYSES COMPARING STRATEGIES FOR INITIAL TREATMENT OF RHEUMATOID ARTHRITIS USING PUBLISHED OUTCOMES: ECONOMIC LESSONS FROM THE TEAR TRIAL

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OBJECTIVES: Controversy surrounds the most appropriate initial treatment regimen for Rheumatoid Arthritis. The objective of the present study is to aid in this debate by providing cost-effectiveness and cost-utility analyses for four treatment scenarios. **METHODS:** Estimates of costs were applied to outcome data from the Treatment of Early Aggressive Rheumatoid Arthritis (TEAR) Trial to determine cost-effectiveness. Treatment regimens from the TEAR trial, immediate etanercept (IE), immediate triple therapy (methotrexate, sulfasalazine, and hydroxychloroquine) (IT), step-up etanercept (SE), and step-up triple therapy (ST), were compared. Each regimen used methotrexate as a background medication. Outcomes analyzed include Disease Activity Scores (DAS-28-ESR) from the TEAR trial, calculated Clinical Disease Activity Index (CDAI) scores, and Quality-adjusted Life Years (QALYs) calculated using literature estimates. Discontinuers were assigned cost and outcome estimates based on duration of participation and associated outcomes. Analysis was limited to the two year time horizon of the TEAR trial. **RESULTS:** ST was cost-effective for all outcome measures, and had the highest net monetary benefit (NMB) for DAS-28-ESR ($592,569) and QALYs ($71,080), using a willingness to pay (WTP) of $250,000. IE was dominated for CDAI and had the lowest NMBs for DAS-28-ESR and QALYs, with incremental cost-effectiveness ratios (ICERs) of $1,025,534 and $8,205,670, respectively. SE was dominated for all outcomes. Results from one-way and probabilistic sensitivity analysis were consistent with these findings. **CONCLUSIONS:** The treatment strategies using etanercept were more costly than triple therapy strategies, with similar outcomes and ICERs outside most acceptable levels. SE was not cost-effective for any outcome, and ST was a consistently cost-effective treatment strategy.

PSY71

COST-EFFECTIVENESS ANALYSIS OF TOCILIZUMAB SUBCUTANEOUS AS FIRST LINE BIOLOGIC MONOTHERAPY FOR RHEUMATOID ARTHRITIS MANAGEMENT IN GREECE

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OBJECTIVES: Rheumatoid Arthritis (RA) is a chronic, inflammatory disease, affecting 0.68% of adult population in Greece. RA is associated with decreased quality of life and a significant economic burden. The intravenous (IV) formulation of Tocilizumab (TCZ) has already proven its efficiency and thus the aim of this study is to evaluate and confirm the cost-effectiveness of the subcutaneous (SC) formulation as first line biologic monotherapy. **METHODS:** Lifetime costs and outcomes for 10,000 patients were projected through an individual simulation model. The analysis compared a standard treatment pathway (STP) (Adalimumab, Etanercept and Palliative care) with a similar pathway where treatment was initiated with TCZ SC. Health Assessment Questionnaire (HAQ) scores were used to reflect disease severity. The primary efficacy outcome considered was American College of Rheumatology (ACR) response. Patient baseline characteristics derived from the ADACTA trial. Efficacy data were elicited from a network meta-analysis. A mapping model transformed HAQ scores into QALYs. Clinical practice standards were determined by Expert Opinion (12 Rheumatologists). Costs for pharmaceuticals and unit costs for resources were obtained from official price lists. Estimated mandatory rebates for new products were taken into account. A third-party payer (Social Insurance) perspective was employed. Costs and QALYs were discounted at 3%. **RESULTS:** The treatment sequence starting with TCZ SC yielded 0.98 more QALYs (9.08vs. 8.10) at an additional cost of €27,442.5 (€132,733.78 vs. €105,291.27) compared to the STP.The Incremental Cost – Effectiveness Ratio (ICER) was estimated at €27,974.28 per QALY gained which is below the national commonly used threshold. Probabilistic Sensitivity Analysis confirms robustness of findings below a threshold of €45,000. **CONCLUSIONS:** The results of the analysis suggest that TCZ SC can be a cost-effective alternative and provide both patients and health care system with more options for RA management due to dual formulation's effectiveness and efficiency.

PSY72

COST-UTILITY OF BARIATRIC SURGERY IN FRANCE AND GERMANY

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OBJECTIVES: To evaluate the cost-utility of bariatric surgery in Germany and France from a third-party payer perspective over a mid-term (10 years) and a long-term (lifetime) horizon. **METHODS:** A state-transition Markov model was developed, in which patients may experience surgery, post-surgery complications, diabetes mellitus type 2, cardiovascular diseases or die. Transition probabilities, data about effectiveness and safety of surgery, costs, and utilities were informed by the literature, patient registries and administrative databases. Three types of surgeries were considered: gastric bypass, sleeve gastrectomy, and adjustable gastric banding. The model was internally and externally validated, the deterministic and probabilistic sensitivity analyses were performed to evaluate uncertainty. A base-case analysis was performed for the population of real surgical candidates in both countries. Cost data are presented in 2012 euros. **RESULTS:** In Germany, in the base-case analysis over 10 years bariatric surgery led to incremental cost of €2,909 and generated additional 0.03 years of life and 1.2 quality-adjusted life years (QALYs) with incremental cost-effectiveness ratio of €2,457/QALY. Over lifetime, surgery led to savings of €8,522, and generated additional 0.7 years of life, and 3.2 QALYs. In France, in the base-case analysis over 10 years bariatric surgery led to incremental cost of €1,106 and generated additional 1.3 QALYs with incremental cost-effectiveness ratio of €852/QALY. Over lifetime surgery lead to savings of €8,359, additional 0.5 life years, and 3.4 QALYs. In both countries surgery was also associated with reduction of incidence of diabetes and cardiovascular disorders. One- to three-year delay in provision of surgery led to reduction of clinical effectiveness, but had diverse impact on total cost in different patient cohorts. **CONCLUSIONS:** In a comprehensive decision analytic model, a current mix of surgical methods for bariatric surgery was cost-effective at 10 years and cost saving over the lifetime time horizon in Germany and France.

PSY73

COST-EFFECTIVENESS OF BARIATRIC SURGERY FOR THE TREATMENT OF OBESITY IN AUSTRALIA

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OBJECTIVES: Obesity is on the rise globally, especially in developed countries and Australia is no exception. Currently, the most effective treatment for sustainable weight loss is bariatric surgery. This study is the first of its kind to assess the cost-effectiveness of 3 bariatric surgery procedures in comparison with standard care in Australia. **METHODS:** A decision analytic model incorporating Markov process will be undertaken to compare adjustable gastric banding (AGB), Roux-en-Y Bypass (RYGB) and sleeve gastrectomy (SG) against standard care. The states will be based on BMI categories obtained from WHO and NICE guidelines. The cycle length will be one year and, owing to the limited availability of long-term data for bariatric procedures, the model will have a time horizon of 10 years. Utilities will be based on the SF-6D and transition probabilities will be derived from a network meta-analysis of BMI reductions as the treatment effect for the various comparators. Cost data will be obtained from the Australian Institute of Health and Welfare (AIHW). Construction of the model will be carried out via Microsoft Excel and the results will be presented as a comparison of costs and quality-adjusted-life years (QALYs) to generate ICERs for each of the interventions. One-way sensitivity analysis in addition to PSA will be carried out to test the robustness of the model in terms of the assumptions made and various input parameters. **RESULTS:** Construction of the model has already commenced and will be finished by mid-July; full completion of the write-up will be completed by the end of July. This research is carried out in conjunction between City University London and Griffiths University (Brisbane, Australia). **CONCLUSIONS:** To be completed by 15/07/2015.

PSY74

COST–UTILITY ANALYSIS OF ANTIHEMOPHILIC FACTOR RFVIII-FS FOR SECONDARY PROPHYLAXIS VS ON-DEMAND THERAPY IN SEVERE HAEMOPHILIA A IN ITALY

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OBJECTIVES: Haemophilia A causes a considerable burden on society. While prophylaxis in children aged ≤2y is now a gold standard treatment, the benefits of late secondary prophylaxis are still controversial. Aim of this study is to estimate the cost-utility of antihemophilic factor rFVIII-FS (Kogenate® FS) in secondary prophylaxis vs on-demand regimen from the Italian healthcare system (NHS) and society perspective. **METHODS:** An individual patient simulation model was adapted to estimate the costs and outcomes associated with secondary prophylaxis and on-demand treatment. The model follows a hypothetical cohort of 1000 patients in a lifetime period. The POTTER observational study represented the source for clinical data such as clothing factors regimens and consumption, adherence to prophylaxis, risk of joint and total bleeds, quality-of-life (QOL) scores and productivity loss. For other data such as intracranial haemorrhage and major surgery rate, data from published literature were used. Drugs costs were estimated using prices reimbursed by the NHS while hospital costs were estimated with national hospital (inpatient and outpatient) tariffs. Caregivers' or patients' productivity loss was estimated with Italian daily Gross Net Product per-capita. Costs and benefits were discounted at 6.0% in line with published economic evaluations on this subject. Incremental cost-effectiveness ratios (ICERs) were calculated. Model outcomes are expressed in terms of costs per quality-adjusted-life-years (QALY). **RESULTS:** As expected, mean lifetime costs are higher with secondary prophylaxis than with on-demand treatment. Secondary prophylaxis however determines better outcomes in bleeding reduction and better QoL. Using the NHS perspective (considering only direct healthcare costs) secondary prophylaxis shows an ICER vs on-demand of €51,202/QALY; a more favourable ICER of €45,432/QALY is shown when considering also indirect costs. **CONCLUSIONS:** Despite the high cost of the pharmacological treatment, antihemophilic factor rFVIII-FS in secondary prophylaxis represents a cost-effective approach compared with on-demand treatment.

PSY75

ECONOMIC EVALUATION OF DASATYNIB IN TREATMENT OF ADULT PATIENTS WITH PHILADELPHIA CHROMOSOME POSITIVE (PH+) ACUTE LYMBPHOBLASTIC LEUKEMIA (ALL) WITH RESISTANCE OR INTOLERANCE TO PRIOR THERAPY IN POLAND

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OBJECTIVES: The objective of this study was to assess the cost-effectiveness and cost-utility of dasatinib versus FLAM (fludarabine, cytarabine, mitoxantrone) chemotherapy in treatment of adult patients with Ph+ ALL with resistance or intolerance to prior therapy from the public payer's perspective in Poland. **METHODS:** The constructed Markov model compared the costs and health effects of dasatinib and FLAM treatment for the average patient in the life-time horizon. The model included the following health states: survival without progression, survival after allogeneic hematopoietic stem cell transplantation (allo-HSCT), survival after progression and death. Data on clinical effectiveness of dasatinib and FLAM were retrieved from single-arm clinical trials, whereas data for overall survival after allo-HSCT and after progression was taken from long-term studies. The utilities for all health states were identified by systematic review. The following costs from public payer's perspective were considered: substances and their administration (chemotherapy), monitoring, allo-HSCT, monitoring and chemotherapy after allo-HSCT and palliative care. Discount rates of 5% for costs and 3.5% for benefits were used. **RESULTS:** The amount of life years gained associated with dasatinib arm and FLAM arm in the life-time horizon was 1.79 LYG and 1.17 LYG, respectively. Treatment with dasatinib resulted in 1.48 QALY and with FLAM – 0.94 QALY. The incremental cost-effectiveness ratio (ICER) of dasatinib versus FLAM was estimated to be €24,145/LYG from the perspective of Polish National Health Fund and it is below the threshold accepted for Poland (€27,275/QALY). The result of cost-utility analysis are almost equal to the threshold accepted for Poland and amount to €28,146/QALY. **CONCLUSIONS:** Taking into account the status ALL as ultra-rare disease and the results of economic evaluation, dasatinib is the cost-effective strategy in comparison with FLAM chemotherapy in treatment Ph+ ALL patients with resistance or intolerance to prior therapy from the public payer's perspective in Poland.

PSY76

ASSOCIATION BETWEEN FEEDING TYPES AND IRON STATUS IN INDIA

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OBJECTIVES: The introduction of complementary foods around the age of six month is necessary as infant's need for energy and nutrients starts to exceed what is provided by breast milk. One of the key nutrients that infant's demand could not be met only by partial breastfeeding is iron. The objective of this study is to shed some light on the role of complementary foods on the iron status of children using the food categories reported in the Indian National Family Health Survey 2005-06 (NFHS-3). **METHODS:** The analysis presents the results of three set of regressions to associate hemoglobin / anemia levels and 17 feeding categories controlling for cofounders. First, ordinary least square (OLS) regressions on the hemoglobin level shown. Second, logistic regressions were used to estimate the odd ratio of becoming anemic and moderate or severe anemic. Finally, with proportional odds (ordered logit) model it was estimated the risk from passing to one to other category in anemia. **RESULTS:** "Commercial fortified baby food" together with "partial breastfeeding" and "infant formula" having the stronger positive and statistical significant association with iron status for infants aged six to 23 months. Additionally, "fruits rich in vitamin A" and "meat and fish" have also a significantly positive association with iron status. On the contrary, "tea or coffee", "no commercial porridge" and "bread or noodles" categories tend to have a significant negative association with iron measurement. **CONCLUSIONS:** Infants in India are introduced relatively late to iron rich foods which would allow them to replenish their iron stores from birth at the appropriate moment. Infant nutritional guidelines should emphasis the benefits of fortified baby food as well as a variety of food that would enhance the iron status on this highly vulnerable age group.

PSY77

RETROSPECTIVE COHORT STUDY USING DATA FROM THE UK CLINICAL PRACTICE RESEARCH DATALINK AND HOSPITAL EPISODE STATISTICS TO ASSESS UNPLANNED HOSPITALISATION IN PATIENTS WITH MULTIPLE MYELOMA

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OBJECTIVES: Understanding resource use in multiple myeloma (MM) is important for assessing the value of new treatments. This study investigated unplanned hospitalisations and factors associated with increased incidence of hospitalisation in patients with MM. **METHODS:** Primary care data from the UK Clinical Practice Research Datalink and Hospital Episode Statistics were collected during 1 January–31 December 2010 for adults who were alive and already diagnosed with MM on 1 January 2010. The primary outcome, unplanned hospitalisation, was defined as an emergency admission involving an overnight stay. Patient and disease characteristics were reported according to hospitalisation status and number of hospitalisations. **RESULTS:** At baseline, median age of the 769 patients was 72 years and median time since diagnosis was 3.1 years. 31.6% of patients had at least one unplanned hospitalisation; of these, 43.2% were rehospitalised during the study period. Patients with unplanned hospitalisations were older (median 74 vs 71 years) and more likely to have renal failure (43.6% vs 31.2%) or cardiac disease (40.3% vs 29.1%) than those without hospitalisation ($p<0.005$). There were no significant differences in the prevalence of diabetes or prior stem cell transplantation. Admissions were most frequently to general medicine (35.7%) or haematology (19.8%) departments. Excluding MM, hospitalisations were most commonly for acute lower respiratory infection (6.6%) and lobar pneumonia (5.4%). Stays were longer for patients with at least two unplanned hospitalisations than for those with one (mean 12 vs 10 days; $p=0.0761$). **CONCLUSIONS:** Renal failure and cardiac disease (common among elderly MM patients) were significantly associated with unplanned hospitalisations. Admissions were often lengthy and required treatment in specialist units (e.g. haematology departments). Such hospitalisations are likely to incur high costs. The results indicate an unmet need in MM management to more successfully control the burden of the disease and thereby reduce associated resource utilisation.

PSY78

INPATIENT BURDEN AMONG PATIENTS WITH CYSTIC FIBROSIS WHO ARE HOMOZYGOUS FOR THE F508DEL MUTATION

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OBJECTIVES: To examine inpatient utilization among patients with cystic fibrosis (CF) and homozygous for the F508del CFTR gene mutation. **METHODS:** Medical chart data from patients with CF ≥12 years old were collected in France, Germany, Italy, Spain, Australia and Canada. Demographics and clinical characteristics were obtained for a 12-month baseline period and a follow-up period ranging from 2-36 months. Proportions of patients hospitalized, hospitalization rates, and length of stay were assessed overall and by age (12-17, ≥18 years), lung function (percent predicted forced expiratory volume in 1 second [ppFEV1] ≥70%, 41-69%, ≤40%), and country. **RESULTS:** Data for 523 patients were included. Baseline mean ± SD age was 24.8 ± 9.5 years and mean ± SD ppFEV1 was 67.1 ± 22.9%. Over a mean of 27 months follow-up, 19% of patients had 1 hospitalization, 11% had 2, and 37% had ≥3. The mean ± SD rate of hospitalizations was 1.2 ± 1.5 per patient-year. In the follow-up period, the proportion of patients with at least 1 hospitalization and the rate of hospitalization were highest for the severe ppFEV1 group relative to moderate and mild groups (86%, 73%, and 55% and 2.1 ± 2.0, 1.4 ± 1.6 and 0.7 ± 1.1 per patient-year respectively). The overall mean length of stay was 10.7 ± 7.5 days; it was 9.2 ± 6.8 days for the mild lung function group vs 11.0 ± 6.7 days for the severe group. The hospitalization rate ranged from 0.6 ± 1.1 per patient-year in Spain to 1.7 ± 1.9 in Australia; trends by lung function were consistent across countries. **CONCLUSIONS:** Patients with CF and homozygous for the F508del CFTR gene mutation have high rates of hospitalization. Hospitalization rate varies by country, but is consistently higher for patients with the lowest lung function, congruent with a progressive disease.

SYSTEMIC DISORDERS/CONDITIONS – Patient-Reported Outcomes & Patient Preference Studies

PSY79

TRANSTHYRETIN FAMILIAL AMYLOID POLYNEUROPATHY IMPACT ON HEALTH-RELATED QUALITY OF LIFE

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OBJECTIVES: Transthyretin Familial Amyloid Polyneuropathy (TTR-FAP) is a rare, progressive, debilitating and life-threatening neurodegenerative disease. The purpose of this study was to assess the health-related quality of life (HRQoL) impairment of TTR-FAP disease versus Portuguese general population. Literature on TTR-FAP patients HRQoL is scarce at worldwide level and no evidence on HRQoL index score for Portugal has been published. **METHODS:** HRQoL was measured using the validated EuroQoL five dimensions three levels (EQ5D-3L) questionnaire being the index score (utility) calculated trough the Portuguese scoring algorithm. The Portuguese general population reference set (n = 1500) was pooled with TTR-FAP patients specific data (n = 1091) extracted from Transthyretin Amyloidosis Outcomes Survey (THAOS) registry. Demographic variables include gender and age. Ordinary Least Squares (OLS) regression for utility was set to test if being asymptomatic carrier caused HRQoL impairment, conditional in other individual characteristics. Generalized linear models (GLM) were specified for disutility in order to disentangle and quantify TTR-FAP effect on HRQoL versus Portuguese general population. Akaike information criteria (AIC) were used to select the most adequate statistical model. **RESULTS:** In a scale from -0.50 to 1.00 the average utility score was 0.76 (0.25) for general population, 0.823 (0.24) for TTR-FAP asymptomatic carriers (n=525) and 0.50(0.37) for symptomatic TTR-FAP patients (n=566). OLS including independent gender and age variables, indicated no significant statistical effect on utility for being a TTR-FAP asymptomatic carrier (p-value 0.54) versus general population. GLM (AIC -0.58) detected a significant statistical effect for gender, age and being symptomatic TTR-FAP patient. Average women aged 44 years and symptomatic TTR-FAP patient, has a 40% impairment on utility versus women aged 44 years from general population. **CONCLUSIONS:** The preference-based utility measures used in this study adequately disentangle TTR-FAP disease impact on patient's health-related quality of life. This study allows us to quantify the large HRQoL effect that TTR-FAP induces.

PSY80

HEALTH STATE UTILITIES FOR GAUCHER DISEASE TYPE 1

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OBJECTIVES: Economic evaluations of Gaucher disease type 1 (GD1) performed to date have used utilities for narrowly defined GD1 health states derived from specific patient populations. The aim of this study was to calculate alternative utilities for GD1 health states based on a standard disease severity measure. **METHODS:** Health states were based on components of the Disease Severity Scoring System (DS3), a validated measure capturing hematologic, visceral, and bone domains of GD1. Nine states were defined using combinations of DS3 severity categories (mild, moderate, marked, and severe) and the presence or absence of bone pain (BP) or skeletal complications (SSC): mild, mild+BP, mild+SSC, moderate, moderate+SSC, marked, marked+SSC, severe, and severe+SSC. DS3 and quality of life (SF-36) data came from a sample of GD1 patients enrolled in the ICGG Gaucher Registry (275 observations, 101 patients). SF-36 data were converted to UK EQ-5D utilities using published methods. We fitted a generalized estimating equation, accounting for multiple observations per patient, containing terms for DS3 severity categories, BP,